# *Design Memorandum No. 05-2005*

TO: Engineering Offices and Divisions
Districts
Consulting Engineers

FROM: Mark S. Gaydos, P.E. – Design Engineer /s/

DATE: March 7, 2005

SUBJECT: Wetland and Tree Review Guidance

Design Manual Reference:

Section II-03.10

__✓__ Revision
_____ Supplemental

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**Introduction**

There are currently two types of wetland reviews included in NDDOT's milestone process, Wetland and Tree Review Type I and Wetland and Tree Review Type II. These were initially defined in Design Memorandum No. 01-02 and added to the NDDOT Design Manual in Section II-03. This memorandum will revise and update those procedures through cooperation and in agreement with FHWA and the United States Army Corps of Engineers.

**Implementation**

The use of this guidance is to be implemented immediately.

**Guidance**

The milestone activities, Wetland and Tree Review Type I and Wetland and Tree Review Type II, have been eliminated. There are now three milestone activities which aid in the determination of impacts and subsequent mitigation of wetland and tree impacts on NDDOT projects. These activities are performed during the development of the environmental document and during the design of the project, and are used in the determination of information necessary for environmental clearance and the subsequent mitigation of the impacts.

**New Milestone Activities**

There are now three activities:

1. Wetland Delineation - Office
2. Wetland Delineation - Field
3. Tree Count

In some cases, the type of wetland delineation required will be apparent when the project is initially programmed into milestone. If the type of wetland review necessary is not readily apparent at the time the project is initially programmed into milestone, the review will be programmed as an office delineation. If at any time during the project development it becomes apparent that a field delineation will be necessary, the Engineering and Environmental Section (EES) of the Design Division should be immediately notified. Upon notification, the EES will reprogram the activity as a field delineation and coordinate the work.

Due to the seasonal constraints associated with conducting a field delineation, the environmental document author should conduct an office delineation as early in the environmental review process as possible to allow for the timely completion of a field delineation if one is found to be necessary.

A Tree Count will be included in the milestone of a project where there is work which may result in the loss of trees.

**Wetland Delineation Activity Criteria and Requirements**

I. Wetland Delineation - Office

A Wetland Delineation - Office (office delineation) is an office wetland delineation using readily available references to determine where wetlands lie within the project area. Unless told otherwise, the environmental document author will be responsible for doing the office delineation. For a project to be considered for an office delineation the type of work will typically be classified under one of the following categories:

1. Safety Improvements: Work activities which would provide for improved traffic operations, motorist guidance, upgrading obsolete roadside features, and improvement of roadside geometry related to safety. Such work can include slope flattening, slope flattening with culvert extensions, and guardrail.

2. 3R – Resurfacing, Restoration, and Rehabilitation Work: This is work that is necessary to return an existing roadway to a condition of structural or functional adequacy. Such work can include the placement of additional surfacing material, shoulder work, bridge work, and work on the roadside and appurtenances.

3. Emergency Projects: These types of projects include emergency relief work and work required to prevent a catastrophic safety hazard or reestablish measures to ensure the immediate safety of the traveling public.

Projects with the type of work as described above potentially impact numerous, relatively small wetlands and result in a cumulative quantity of wetland impacts which are generally small and contained within NDDOT right of way. Additionally, the functional values of the wetlands are generally compromised due to the proximity of the roadway.

These types of projects are usually developed quickly, typically being advanced from inception to plan completion in one year or less. Due to seasonal constraints and staffing demands, scheduling and completing a Wetland Delineation - Field (field delineation) in the time frame given can be difficult, and at times impossible on these projects.

When possible, a field delineation should be performed. When not practical or possible, an office delineation may be considered appropriate for a project if the following criteria are met:

1. The total potential earthwork footprint beyond the toe of slope is less than 5 acres.

2. No individual wetland site impact is more than ½ acre.

3. The sum total of wetland impacts for the project are less than or equal to 1 acre.

4. All work which involves the earthwork footprint is contained within the existing right of way.

5. Existing drainage patterns will not be altered.

The following is a list of references to be used when performing an office delineation:

1. National Wetland Inventory (NWI) Maps; these maps are produced by the United States Fish and Wildlife Service (USFWS) and can be found on the internet or by contacting the local USFWS office.

2. USFWS Easement Wetland Maps; this reference will be used to ensure no USFWS easement wetlands will be impacted. If there is potential for impact to USFWS easement wetlands an office delineation may not be appropriate.

3. Natural Resource Conservation Society (NRCS) Wetland Maps; this reference will be used to ensure no NRCS wetlands will be impacted. If there is potential for impact to NRCS wetlands an office delineation may not be appropriate.

4. County and NRCS soil surveys in conjunction with aerial photographs.

II. Wetland Delineation – Field

A Wetland Delineation – Field (field delineation) is an onsite wetland delineation. The field delineation will be conducted in accordance with the United States Army Corps of Engineers publication "Corps of Engineers Wetlands Delineation Manual" January 1987 – Final Report (87 Manual). Field delineations will be coordinated and performed by, through, or in coordination with the EES.

When the field delineation will be performed by a consultant, the work will be coordinated through NDDOT technical support contact. A complete copy of the field delineation with all maps, forms, and any other applicable field or office records as required for documentation by the 87 Manual will be forwarded to the EES immediately upon completion of the delineation.

Pursuant to NDCC 43-36, "Professional Soil Classifiers", when applicable, determination of hydric soils must be performed by a registered soil classifier.

III. Tasks

The following steps are an outline of the required tasks, along with the responsible parties, for completing the wetland delineation process.

1. Base Maps

   In both types of delineations the author of the environmental document is responsible for supplying base maps of the project area to be used for the wetland delineation.

   Delineations will typically require a plan view of the project area (such as plan and profile sheets from previous jobs in the same area) accurate enough to delineate the wetlands and calculate the impacts, aerial photos, USGS topographical maps, NWI maps of the project area, and a legal description of the project area (section, township, range).

   If a field delineation is required, these reference materials should be submitted to the EES as early as possible in the project development. They should be submitted no later than three months prior to the field delineation due date programmed into milestone.

   If a field delineation is to be performed by a consultant, base maps will not need to be submitted to the EES until the results of the delineation are submitted to the NDDOT technical support contact.

   Both delineations will be used to make a preliminary estimate of the project alternatives wetland impacts for use in the environmental document.

2. Field Review

   Office delineations will not require a field review. Field delineations will be done in accordance with the 87 Manual.

3. Wetland Delineation Transmittal

   For office delineations the environmental document author will transmit all documentation of the delineation to the EES for archiving. Immediately upon acceptance of the environmental document, the environmental document author will ensure the wetland delineation information is forwarded to the project designer so that the designer can determine the actual wetland impacts during the design process.

   For field delineations, in most cases, no transmission of the delineation will be necessary due to the fact that the work will be performed by the EES. The EES will ensure that the information is disseminated to all applicable parties. If the delineation is performed by a consultant, the consultant will transmit all delineation documentation to the EES through NDDOT technical support contact immediately upon completion of the delineation.

4. Wetland Impact Calculation and Transmittal

   Wetland impacts are determined by using the wetland delineation. The project wetland impact is defined as the total project area, in acres, which is affected by the project footprint. Any area which is determined to be a wetland which is within the footprint of the work required to construct the project, both temporary and permanent, will be determined to be an impact. Both permanent and temporary impacts must be included in the impact calculation and segregated as such. Permanent impacts (for example; areas where fill is permanently placed in a wetland) will be mitigated by NDDOT. Temporary impacts (for example; the construction of a temporary bypass through a delineated wetland which will be removed and the area restored to its pre-existing condition) will be recorded but not mitigated.

   Wetland impacts will be estimated during the environmental review process and included in the environmental document. Actual impacts will be calculated by the project designer as early as possible in the design phase of the project. Impacts will be itemized to include project location and acres of impact at each location. Once the designer has determined the actual impacts, the information, including the supporting data, will immediately be forwarded to the EES. Impacts will be calculated to the nearest 0.1 acre.

5. Wetland Impact Statement

   A wetland impact statement is necessary for the environmental document. The statement will include a statement of all potential impacts and the method to be used for mitigation. The environmental document author is to contact the EES for

mitigation information. The wetland impact statement must be included in both the draft and final environmental document in the "Impacts" section of the document.

The wetland impact and mitigation statement, at a minimum, should include the following:

A. The type of delineation performed (office or field). If areas were selectively review (for example; only those areas which are within the footprint of the project) include a statement detailing how the areas were selected.

B. For field delineations, the date and the entity (NDDOT, consultant, etc.) that performed the delineation.

C. The estimated total permanent wetland area(s) impacted for all alternatives.

D. The estimated total temporary wetland area(s) impacted for all alternatives.

E. The method (onsite, bank, etc.) and location where the mitigation will take place for the permanent impacts.

6. Wetland Mitigation Tracking

The EES will track wetland impacts and mitigation. Estimated impacts will be noted during the environmental review process, actual impacts as determined by the designer will be used for mitigation and permanent records. Wetland impacts and the associated information may be necessary to fulfill other obligations such as the 404 permit information, application, and obtaining the 404 permit. Therefore, actual impacts and information should be forwarded to the EES as early as possible in the design phase.

**Tree Count Activity Criteria and Requirements**

I. Tree Count

The Tree Count (tree count) activity is to ensure that all projects are reviewed for potential tree impacts. When a project will result in the removal and destruction of trees, those trees which meet certain criteria will be counted and mitigated by the NDDOT.

II. Tasks

1. Environmental Document Statement

The environmental document author is responsible for obtaining a preliminary determination as to whether or not the project will result in the loss of trees. If so, a

statement should be included in the environmental document stating such and that the trees will be mitigated at the following applicable ratio:

A. Trees that are mitigated in a rural location will be mitigated at a 2:1 ratio.

B. Trees which are mitigated in an urban landscaping setting will be mitigated at 1:1 ratio.
C. Trees that are mitigated at an established tree bank will be mitigated at a 1:1 ratio.

2. Tree Count Criteria

Trees will be counted, and the loss of those trees will be mitigated, when they meet the following criteria:

A. Deciduous trees; if the diameter of the tree is 3 inches or more when measured 24 inches above the ground, and the tree is 15 feet or more in height.

B. Evergreen trees; if the tree is 5 feet or more in height.

If it is impractical or impossible to count each individual tree, the following methodology may be used:

A. Choose a representative area(s).

B. Measure the area(s) in whatever unit is most practical (square footage, acreage, etc.).

C. Count the number of trees in the area.

D. Use this as a representative number of trees for all other areas which are similar in characteristics to the area(s). Use the appropriate ratio of number of trees to the size of the area.

3. Tree Count Transmittal

The project designer will be responsible for forwarding the actual tree count data to the EES in those projects where there is a potential for tree impacts. As early as possible in the design process the designer should coordinate with the district office to have a tree count done of those trees which will be lost due to construction based on the final design of the project. Once the information is obtained by the designer it should immediately be forwarded to the EES for documentation and mitigation of losses.

**Questions**

Any questions regarding the content or implementation of this memorandum should be referred to the Design Division, Engineering and Environmental Section, 701-328-2130.

**Approved**

/s/ 4/4/05

Francis G. Ziegler, P.E. – Director, Office of Project Development — Date